

CLAIMS

1. An information delivery system in which an information reproduction device reproduces information delivered from an information delivery center,

the information delivery system comprising information reproduction mode changing means for changing reproduction mode for the information based on circumstances on information reproduction in the information reproduction device.

2. The information delivery system as set forth in claim 1, further comprising:

first communication means for enabling communication between a mobile body and the information delivery center, the mobile body including the information reproduction device and residing in a first communication area; and

second communication means for enabling communication between the mobile body and the information delivery center when the mobile body resides in a second communication area which is larger than the first communication area, the second communication means carrying out communication with a higher speed than the first communication means,

wherein:

the information reproduction mode changing means includes:

determining means for determining a level of attribute information of target information, which is selected by a user of the mobile body and is to be delivered from the information delivery center; and

selecting means for selecting either the first communication means or the second communication means to be used for delivery of the target information to the information reproduction device, based on a determination result of the determining means.

3. The information delivery system as set forth in claim 2, wherein:

the selecting means carries out the selecting using a determination reference table in which a level of attribute information and communication means to be used for transmission of the target information are related with each other previously.

4. The information delivery system as set forth in claim 1, further comprising:

first communication means for enabling communication between a mobile body and the information delivery center, the mobile body including the

information reproduction device and residing in a first communication area; and

second communication means for enabling communication between the mobile body and the information delivery center when the mobile body resides in a second communication area which is larger than the first communication area, the second communication means carrying out communication with a higher speed than the first communication means,

wherein:

the information reproduction mode changing means includes:

determining means for determining a level of attribute information of target information, which is selected by a user of the mobile body and is to be delivered from the information delivery center;

determination information transmitting means for transmitting determination information, which is a determination result of the determining means, to the mobile body via either the first communication means or the second communication means;

selecting result transmitting means for transmitting to the information delivery center a selecting result made by the user as to which of the first communication means and the second communication means is used for

obtaining the target information, which result is made based on the determination information transmitted from the determination information transmitting means; and

selecting means for selecting either the first communication means or the second communication means to be used for delivery of the target information to the information reproduction device, based on the selecting result transmitted from the selecting result transmitting means.

5. The information delivery system as set forth in claim 4, wherein:

the determination information transmitting means transmits the determination information by the second communication means.

6. The information delivery system as set forth in any one of claims 2 through 5, wherein:

the attribute information is urgency of transmission of the target information.

7. The information delivery system as set forth in any one of claims 2 through 6, wherein:

the attribute information is a data amount of the target information.

8. The information delivery system as set forth in any one of claims 2 through 7, wherein:

the attribute information is time needed for transmission of the target information via either the first communication means or the second communication means.

9. The information delivery system as set forth in any one of claims 2 through 8, wherein:

the second communication means is wireless telephone communication.

10. The information delivery system as set forth in claim 9, wherein:

the wireless telephone communication is a mobile phone communication.

11. The information delivery system as set forth in any one of claims 2 through 10, wherein:

the first communication means is DSRC communication.

12. The information delivery system as set forth in claim 11, wherein:

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selecting means selects the first communication means to be used for transmission of the target information to the mobile body, and reserves a DSRC terminal device used for the transmission of the target information before the transmission.

13. The information delivery system as set forth in any one of claims 11 or 12, wherein:

the attribute information is a distance from the mobile body to a DSRC terminal device nearest the mobile body.

14. The information delivery system as set forth in any one of claims 11 through 13, wherein:

the attribute information is a time that the mobile body takes to reach a communication area for the nearest DSRC terminal device.

15. An information acquisition device comprising first communication means for enabling communication between the information delivery center and a mobile body which resides in a first communication area; and second communication means for enabling communication between the information delivery center and the mobile body which resides in a second communication area

larger than the first communication area, wherein the first communication means carries out communication with a higher speed than the second communication means,

wherein:

a user of the mobile body transmits setting information for specifying target information, which is information the user wishes to obtain from the information delivery center, the setting information being transmitted via either the first communication means or the second communication means, and

the user obtains the target information via either the first communication means or the second communication means, which is selected by the information delivery center based on the setting information.

16. An information acquisition device comprising first communication means for enabling communication between the information delivery center and a mobile body which resides in a first communication area; and second communication means for enabling communication between the information delivery center and the mobile body which resides in a second communication area larger than the first communication area, wherein the

first communication means carries out communication with a higher speed than the second communication means,

wherein:

a user of the mobile body transmits setting information which specifies target information the user wishes to obtain from the information delivery center, the setting information being transmitted via either the first communication means or the second communication means,

the user receives from the information delivery center determination information for a level of attribute information of the target information, which level is determined by the information delivery center based on the setting information; and

the user selects either the first communication means or the second communication means to be used for obtaining the target information, based on the determination information.

17. An information delivery server which performs communication with a mobile body residing in a first communication area via first communication means, and performs communication with the mobile body residing in a second communication area, which is larger

than the first communication area, via second communication means, the first communication means carrying out communication with a higher speed than the second communication means,

the information delivery server comprising:

determining means for determining a level of attribute information of target information the user wishes to obtain; and

selecting means for selecting either the first communication means or the second communication means to be used for delivery of the target information to the mobile body, based on a determination result of the determining means.

18. An information delivery server which performs communication with a mobile body residing in a first communication area via first communication means, and performs communication with the mobile body residing in a second communication area, which is larger than the first communication area, via second communication means, the first communication means carrying out communication with a higher speed than the second communication means,

the information delivery server comprising:

determining means for determining a level of

attribute information of target information the user wishes to obtain from the information delivery center;

determination information transmitting means for transmitting determination information, which is a determination result of the determining means, to the mobile body via either the first communication means or the second communication means;

selecting result receiving means for receiving from the mobile body a selecting result made by the user as to which of the first communication means and the second communication means is used for obtaining the target information, which result is made based on the determination information transmitted from the determination information transmitting means; and

selecting means for selecting either the first communication means or the second communication means to be used for delivery of the target information to the information reproduction device, based on the selecting result received by the selecting result receiving means.

19. An information delivery control method for an information delivery system,

the information delivery system comprising first communication means for enabling communication

between an information delivery center and a mobile body which resides in a first communication area; and second communication means for enabling communication between the information delivery center and the mobile body which resides in a second communication area larger than the first communication area, wherein the first communication means carries out communication with a higher speed than the second communication means,

the method comprising the step of:

selecting either the first communication means or the second communication means to be used for transmission of target information which the user wishes to obtain from the information delivery center, based on a level of attribute information of the target information.

20. An information delivery control method for an information delivery system,

the information delivery system comprising first communication means for enabling communication between an information delivery center and a mobile body which resides in a first communication area; and second communication means for enabling communication between the information delivery center and the mobile body which resides in a second communication area

larger than the first communication area, wherein the first communication means carries out communication with a higher speed than the second communication means,

the method comprising the steps of:

determining in the information delivery center a level of attribute information of target information, which a user of the mobile body wishes to obtain from the information delivery center, and transmitting determination, which is as a determination result, to the mobile body via either the first communication means or the second communication means; and

transmitting to the information delivery center a selecting result made by the user as to which of the first communication means and the second communication means is used for obtaining the target information, which result is made based on the determination information transmitted from the determination information transmitting means, and selecting either the first communication means or the second communication means to be used for delivery of the target information to the mobile body, based on the selecting result.

21. An information delivery control program for causing a computer to execute the information delivery

control method as set forth in claims 19 or 20.

22. A computer-readable storage medium storing the information delivery control program as set forth in claim 21.

23. The information delivery system as set forth in claim 1, wherein:

the information delivery center includes a content item data base for accumulating a plurality of content item files, and an information delivery server for delivering the content item files,

the information reproduction device reproduces content items received from the information delivery center via content item delivery means, and

the information reproduction mode changing means is capable of changing content or reproduction order of the content items in the information reproduction device, which content and order are determined when the content item is created, according to one or a plurality of: event information produced by operation by a user, event information transmitted from the information delivery center, event information from an external sensor, and event information produced in the information reproduction device.

24. The information delivery system as set forth in claim 23, wherein:

the content items are delivered in such a manner that the plurality of content item files are accumulated in an upper directory of a tree-structure including a plurality of lower directories, allowing a user of the information reproduction device to select a target upper directory or a lower directory so that all content item data in the target upper directory or the lower directory thus selected are downloaded as one group.

25. The information delivery system as set forth in claim 23, wherein:

the information delivery center has an accounting function for carrying out predetermined accounting operation regarding delivery of the content items from the information delivery center to a plurality of the information reproduction devices.

26. The information delivery system as set forth in claim 23, wherein:

each of the plurality of content item files previously includes a guide content item for showing details or usage instruction of the content item, the guide content item is

reproduced whenever required by switching operation by the user.

27. The information delivery system as set forth in claim 23, wherein:

the plurality of content item files are automatically updated in the information reproduction device by delivering update event information of content item data from the information delivery center to the information reproduction device, and downloading via the content item delivery means updating content item data specified by the information reproduction device using the update event information before the user uses the information reproduction device under a predetermined condition, so that when the user starts up the information reproduction device, the content items are immediately updated before reproduced, thereby reducing communication load of the information delivery center.

28. The information delivery system as set forth in claim 23, wherein:

each of the plurality of content item files includes a program introduction content item for introducing other programs than a content item program currently reproduced, allowing the user to make a request of one of

the programs in the program introduction content item with respect to the information delivery center using the event information produced by operation by the user, so as to obtain the program via the content item delivery means and reproduce the program after the content item program currently reproduced.

29. The information delivery system as set forth in claim 23, wherein:

each of the plurality of content item files includes a link content item which contains link information leading to other related content item, and a request guidance; and other content items than the content items accumulated in the information reproduction device are downloaded to the information reproduction device on user's request for obtaining the link content item.

30. The information delivery system as set forth in claim 23, wherein:

each of the plurality of content item files includes other content item as reference item of the content item, which reference item is previously decided by a content item creator; and each of the plurality of content item files includes information for allowing the user of the information reproduction device to make a request of the

other content item during reproduction of a content item currently selected by the user, so as to enable delivery of other content item as a background job during reproduction of a content item.

31. An information reproduction device which receives a plurality of content item files via the content item delivery means from an information delivery center including a content item data base for accumulating the plurality of content item files, and an information delivery server for delivering the content item files, the information reproduction device reproducing the content items received from the information delivery center,

the information reproduction device is capable of changing content or reproduction order of the content items in the information reproduction device, which content and order are determined when the content item is created, according to one or a plurality of: event information produced by operation by a user, event information transmitted from the information delivery center, event information from an external sensor, and event information produced in the information reproduction device.

32. An information reproduction method for (i)

receiving a plurality of content item files via the content item delivery means from an information delivery center including a content item data base for accumulating the plurality of content item files, and an information delivery server for delivering the content item files, and (ii) reproducing the content items received from the information delivery center,

the method comprising the step of:

changing content or reproduction order of the content items in the information reproduction device, which content and order are determined when the content item is created, according to one or a plurality of: event information produced by operation by a user, event information transmitted from the information delivery center, event information from an external sensor, and event information produced in the information reproduction device.

33. An information delivery control method for (i) delivering a plurality of content item files via the content item delivery means from an information delivery center, which includes a content item data base for accumulating the plurality of content item files, and an information delivery server for delivering the content item files,

wherein:

the content items delivered from the information delivery center are received and reproduced by a plurality of information reproduction devices, and the content items are delivered according to one or a plurality of: event information produced by operation by a user, event information transmitted from the information delivery center, event information from an external sensor, and event information produced in the information reproduction device.

34. A computer-readable program storage medium, which stores a program for (i) receiving a plurality of content item files via the content item delivery means from an information delivery center including a content item data base for accumulating the plurality of content item files, and an information delivery server for delivering the content item files, and (ii) reproducing the content items received from the information delivery center,

the program comprising the step of:

changing content or reproduction order of the content items in the information reproduction device, which content and order are determined when the content item is created, according to one or a plurality of: event information produced by operation by a user, event

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information transmitted from the information delivery center, event information from an external sensor, and event information produced in the information reproduction device.